# **Company Information**

Company Name: Southwestern Energy Company

Gas STAR Contact: Keith Jordan

Title HSE Manager

Address: 23 Nabco Avenue

City: Conway

State: AR

Zip: 72032

Phone: 501-548-6561

Fax:

E-mail: keith\_jordan@swn.com

Company Information Updated: Yes

# **Activities Reported**

BMP1: No BMP2: Yes BMP3: Yes

Total Methane Emission Reductions Reported This Year: 59,606

Previous Years' Activities Reported: No

## Period Covered by Report

From: 01/01/2006

To: 12/31/2006

**Additional Comments** 

6/18/07 NaturalGas See 2 E-mails
From Keith
Jordan at
back of this

Entered into I star - JDC

6/19/07 - CG - QX/QC

	Activities			
Facility Sur				
	h tank separators installe drators in system equip			
Cost Summ	ary			
imated cost	per flash tank separator	replacement (including	g equipment and labor): \$_	
Methane E	missions Reduction	-		
a Source:	Standard Calculation			
thane Emiss	sions Reduction: 1,892	2.16 Mcf/year		
	Flash Tank Installation Number	TEG circulation rate (gal/hr)	Methane entrainment rate (scf/gal)	Hours of operation (hrs/yr)
	20	80	3	8,760
	rs that methane emission e of Gas Saved aved: \$ 13,245.12	s reductions will be re	alized: 10 years	
Mcf used:	ture Activities			
Mcf used:  Planned Fu mber of flas	ture Activities h tank separators to be i	nstalled next year:	flash tanks	
Mcf used:	ture Activities h tank separators to be i	nstalled next year: _	flash tanks	

Southwestern Energy Company

BMP3: Partner Reported Opportunities (PROs) Install automated air/fuel ratio control systems

#### **Current Year Activities**

# A. Description of PRO

Implemented in the design phase for new compressor engines.

B. Level of Implementation

Number of units installed: 51 units

C. Methane Emissions Reduction

Methane Emissions Reduction: 6,528.00 Mcf/year

Basis for the emissions reduction estimate:

EPA estimation methods

D. Duration of PRO

Number of years that methane emissions reductions will be realized:

10 years - (willow y allow 1 year in Istar)

- Colculation from Emission Reduction Reference Guide - Entered as "default"

E. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor): \$\_\_\_\_\_

F. Total Value of Gas Saved

Value of Gas Saved: \$ 45,696.00

\$ / Mcf used: \$ 7.00

G. Planned Future Activities

To what extent do you expect to implement this PRO next year?:

Continue implementing in new

compressor engines

Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)

<sup>\*</sup> Total cost of practice/activity (including equipment and labor)

#### Additional Comments

# Production - Natural Gas STAR Annual Report - 2006 Southwestern Energy Company BMP3: Partner Reported Opportunities (PROs) Artificial lift: install plunger lift Install plunger lift systems in gas wells **Current Year Activities** A. Description of PRO Implement as needed. Data represents a baseline for 2006. This PRO has been implemented for several years prior to 2006. B. Level of Implementation Number of units installed: 206 units C. Methane Emissions Reduction Methane Emissions Reduction: 412.00 Mcf/year Other Basis for the emissions reduction estimate: EPA estimate of 2mcf/yr. D. Duration of PRO Number of years that methane emissions reductions will be realized: 10 years E. Cost Summary Estimated cost of implementing the PRO (including equipment and labor): \$\_\_\_\_ F. Total Value of Gas Saved Value of Gas Saved: \$ 2,884.00 \$ / Mcf used: \$ 7.00 G. Planned Future Activities

### Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost * (\$)	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)
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<sup>\*</sup> Total cost of practice/activity (including equipment and labor)

To what extent do you expect to implement this PRO next year?:

# Additional Comments

	Production -	- Natural Gas	STAR Annual Repor	1 - 2000	
	nergy Company Reported Opportunities (PROs) covery units on crude oil storage	tanks— Th	stall vapor rec	overy units	
Current Year				V	
	on of PRO o reduce VOC emissions from sto for several years prior to 2006.	ock tanks. Implen	nent as needed. Data represen	nts a baseline for 2006. This PR	tO has been
	nplementation its installed: 2 units				
Mathana Emi	Emissions Reduction ssions Reduction: 372.00 Mcf emissions reduction estimate:	Vyear Flyear Other 5 m	of lday perday per	VRU (field estimate	in
Estimate			1.		J
D. Duration Number of ye	of PRO ars that methane emissions reduc	tions will be real	ized: 10 years		
E. Cost Sum Estimated cos	. C' I I . DDO (in al	uding equipment	and labor): \$		
F. Total Value Value of Gas \$ / Mcf used:	to of implementing the PRO (include of Gas Saved) Saved: \$\frac{2}{2,604.00} \frac{4}{25}, 5 \$7.00	50 (36	50 m & /year * \$7.001	(mcf)	
O	Future Activities  nt do you expect to implement thi	s PRO next year	?:		
Previous Yea	ars' Activities				
Year	Frequency of practice or # of Installations	Total Cost *	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)	

Additional Comments		

# Production - Natural Gas STAR Annual Report - 2006 Southwestern Energy Company BMP3: Partner Reported Opportunities (PROs) Replace gas-assisted glycol pumps with electric pumps **Current Year Activities** A. Description of PRO Implement as part of design when electric power is available. Implement as needed. Data represents a baseline for 2006. This PRO has beimplemented for several years prior to 2006. B. Level of Implementation Number of units installed: 1 units Default collection since it is from Reference C. Methane Emissions Reduction Methane Emissions Reduction: 194.00 Mcf/year Basis for the emissions reduction estimate: EPA Estimate D. Duration of PRO Number of years that methane emissions reductions will be realized: 10 years E. Cost Summary Estimated cost of implementing the PRO (including equipment and labor): \$\_\_\_\_\_ F. Total Value of Gas Saved Value of Gas Saved: \$ 1,358.00 \$ / Mcf used: \$ 7.00 G. Planned Future Activities To what extent do you expect to implement this PRO next year?: Previous Years' Activities Value of Gas **Estimated Reductions** Frequency of practice Total Cost \* (Mcf/Yr) Saved (\$) or # of Installations (\$) Year \* Total cost of practice/activity (including equipment and labor)

Additiona	i Comments				

Southwestern Energy Company

BMP3: Partner Reported Opportunities (PROs)

Other: Use inert gases to perform purges

# Current Year Activities

A. Description of PRO

Implement as a matter of business practice.

B. Level of Implementation

Number of units installed: 272 units

C. Methane Emissions Reduction

Methane Emissions Reduction: 8,608.00 Mcf/year

Basis for the emissions reduction estimate: Other

EPA Estimate of 31.65mcf/yr/mile

D. Duration of PRO

Number of years that methane emissions reductions will be realized: 1 years

E. Cost Summary

Estimated cost of implementing the PRO (including equipment and labor):

F. Total Value of Gas Saved

Value of Gas Saved: \$ 60,256.00

\$ / Mcf used: \$ 7.00

G. Planned Future Activities

To what extent do you expect to implement this PRO next year?;

Previous Years' Activities

Year	Frequency of practice or # of Installations	Total Cost *	Estimated Reductions (Mcf/Yr)	Value of Gas Saved (\$)
rear	or # of flistaliations	(3)	(MICH II)	Saveu (5)

<sup>\*</sup> Total cost of practice/activity (including equipment and labor)

## **Additional Comments**

## **Current Year Activities**

## A. Description of PRO

Implement as needed.

**B.** Level of Implementation

Number of units installed: 52 units

C. Methane Emissions Reduction

Methane Emissions Reduction: 41,600.00 Mcf/year

Basis for the emissions reduction estimate: Other

**EPA** Estimate

See e-Mail Last Page-

# Production - Natural Gas STAR Annual Report - 2006 Southwestern Energy Company BMP3: Partner Reported Opportunities (PROs) Other: Automate System Operation to reduce venting D. Duration of PRO Number of years that methane emissions reductions will be realized: 10 years E. Cost Summary Estimated cost of implementing the PRO (including equipment and labor): \$\_\_\_\_ F. Total Value of Gas Saved Value of Gas Saved: \$ 291,200.00 \$ / Mcf used: \$ 7.00 G. Planned Future Activities To what extent do you expect to implement this PRO next year?: Previous Years' Activities Value of Gas **Estimated Reductions** Total Cost \* Frequency of practice or # of Installations (\$) (Mcf/Yr) Saved (\$) Year

\* Total cost of practice/activity (including equipment and labor)

Additiona	Commen	ts

Southwestern Energy Company Additional Accomplishments From:

"Keith Jordan" <Keith\_Jordan@SWN.COM>

To:

"Jeff Clark" <Jeff.Clark@erg.com>

Date: Subject: 5/30/2007 3:07:09 PM RE: Southwestern Energy

Jeff, I submitted our report yesterday. After reviewing the printed version, I found a couple errors that I need to correct.

I'm not sure why but on the PRO calculation for Installing Flash Separators on Glycol Dehydrators, it appears the calculation on went for 2 flash tanks, when in fact there are 20.

Also, the installation of VRU on stock tanks was input incorrectly. The estimate should show 2 VRUs at a reduction of 5mcf/d for a total annual reduction of 3650 mcf/yr.

How can I rectify these issues on my report?

Keith Jordan

-----Original Message----From: Jeff Clark [mailto:Jeff.Clark@erg.com]
Sent: Thursday, May 17, 2007 9:56 AM
To: Keith Jordan

Subject: Re: Southwestern Energy

Hi Keith:

Thank you very much for your reply. Please let me know if you need any assistance with the 2006 report and I would be happy to help.

Have a great day,

Jeff

>>> "Keith Jordan" <Keith\_Jordan@SWN.COM> 5/17/2007 10:37 AM >>> Jeff, I got your voicemail the other day. We got a late start in our quanitification process for CY2006. We are currently working on it and I hope to fill out the online report by the end of May or first of June.

Keith E. Jordan DeSoto Field HSE Manager Southwestern Energy Company (501) 548-6561 - office (501) 269-5684 - cell

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From:

"Keith Jordan" <Keith\_Jordan@SWN.COM>

To:

"Jeff Clark" < Jeff. Clark@erg.com>

Date:

6/4/2007 12:08:05 PM

Subject:

Southwestern Energy Report - REVISION

Jeff, in performing post-report QA/QC I discovered another error that needs to be corrected. Our operations personnel had a misinterpretation of one of the BMPs.

I need to request that the BMP associated with Purging Lines with Inert Gases be removed from our report along with all the corresponding emission reductions.

If you have any questions, please let me know.

Keith E. Jordan DeSoto Field HSE Manager Southwestern Energy Company (501) 548-6561 - office (501) 269-5684 - cell

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From:

"Kantamaneni, Ravi" < RKantamaneni@ICFConsulting.com>

To:

"Darcie Honabarger" < Darcie. Honabarger@erg.com >, "Hauswald, Ed"

<EHauswald@ICFConsulting.com>

4/26/2005 3:42:34 PM

Date: Subject:

Southwestern Energy

Darcie,

It seems that Southwestern Energy has just joined (I believe Roger received their MOU last week), so here's a summary of our marketing:

12/29/03 - Sent letter sent Harold Korell (CEO). 1/12/04 - left vm w/ Harold Korell. 1/14/04 - received call from Allan Stubblefield (VP Operations). Meeting organized for 1/26 at Southwestern HQ for 2pm. 1/19 - Allan accidentally scheduled meeting for today. Cannot make meeting on 1/26, so he asked that we contact him next time we are in town. 4/8 sent email to Jackie Gass (jgass@swn.com) - Allan's assistant. Asked about scheduling a meeting for week of June 8th. 4/19 - left vm w/ Allan Stubblefield. 5/17/04 - confirmed meeting for 6/9 at Southwestern HQ for 1pm. 6/9 - Met w/ Alan and Danny Spaulding (staff engineer). Meeting went well. Very receptive to Gas STAR Program ideas and goals. Alan indicated that he wanted to discuss details w/ Harold Korell before proceeding. 7/23/04 - left vm w/ Alan. 8/30 - left vm w/ Allan. 9/16 Roger left vm; 10/21/04 - Allan Stubblefield returned Roger's call: Going to join but they are in the middle of hiring and expanding production. Again, he was very positive. He asked that we call after January 1. 2/1/05 - Roger left vm.

Let me know if you need anything else. Thanks.

#### Ravi

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CC:

"Heather Wright" <Heather.Wright@erg.com>